

Part 1 (SELECT)

1) Show all book titles together with publisher names.

```
SELECT Title, PubName
```

```
FROM Book;
```

2) Which book has the largest number of pages?

```
SELECT ISBN, title
```

```
FROM Book
```

```
WHERE pagesNum = (SELECT MAX(pagesNum) FROM Book);
```

3) Which authors have written more than 5 books?

```
SELECT Author
```

```
FROM BOOK
```

```
GROUP BY Author
```

```
HAVING COUNT(ISBN) > 5;
```

4) Which books have more than twice as many pages as the average number of pages for all books?

```
SELECT ISBN, Title
```

```
FROM Book
```

```
WHERE pagesNum >= 2 * (SELECT AVG(pagesNum) FROM Book);
```

5) Which categories contain subcategories?

```
SELECT DISTINCT ParentCat
```

```
FROM Category;
```

6) * Which author (assume authors' names to be unique) has the maximum number of books written?

```
SELECT Author, COUNT(*) as written
```

```
FROM Book
```

```
GROUP BY Author
```

```
HAVING written = (
```

```
    SELECT MAX(written)
```

```
    FROM (SELECT COUNT(*) as written
```

```
FROM Book
GROUP BY Author)
);
```

7) * What readers have borrowed all the books (not copies) authored by "Mark Twain"?

```
SELECT b1.readerNr, Book.Author
FROM Borrowing b1
JOIN Copy c ON b1.ISBN=c.ISBN AND b1.CopyNumber=c.CopyNumber
JOIN Book ON Book.ISBN=b1.ISBN
WHERE Book.Author = "Mark Twain"
GROUP BY b1.readerNr, Book.Author
HAVING COUNT(*) = (SELECT COUNT(*)
FROM Borrowing b2
JOIN Copy c ON b2.ISBN=c.ISBN AND b2.CopyNumber=c.CopyNumber
JOIN Book ON Book.ISBN=b2.ISBN
WHERE b1.readerNr=b2.readerNr);
```

8) * Which books has more than one copy?

```
SELECT ISBN, COUNT(*) as cnt
FROM Copy
GROUP BY ISBN
HAVING cnt > 1;
```

9) ** What are the ten oldest books?

```
SELECT b.ISBN, b.title
FROM Book b
WHERE 10 > (SELECT COUNT(*)
FROM Book b2
WHERE b2.PubYear <= b.PubYear AND b2.ISBN != b.ISBN
);
```

10) ** Enumerate all categories under "Sports" category (on any distance from it).

Part 2 (DML)

1) Add a Borrowing record for reader 'John Johnson' and the book with ISBN 123456 and the copy number 4.

```
INSERT INTO borrowing VALUES (  
    (SELECT id  
    FROM Reader  
    WHERE firstName="John" AND lastName="Johnson"),  
    123456, 4, NULL  
);
```

2) Delete all books with the Year of publish greater than 2000.

```
DELETE FROM Book  
WHERE pubYear>2000;
```

3) Change the return date for all the books of the category "Databases" starting from 01.01.2016 so that they will be on borrow for 30 days longer (Assume that it's possible to add numbers to dates in SQL).

```
UPDATE Borrowing  
SET returnDate=returnDate + 30  
WHERE returnDate>=DATE(01.01.2016) AND ISBN IN (SELECT ISBN  
    FROM BookCat  
    WHERE categoryName="Databases");
```